



CERTIFICATE NUMBER	23-2397435-PDA
EFFECTIVE DATE	26-Jul-2023
EXPIRY DATE	25-Jul-2028
ABS TECHNICAL OFFICE	Houston ESD - Ship Equipment

## CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

**VAN BEEST B.V.**

located at

**P.O. BOX 57, 3360 AB SLIEDRECHT , SLIEDRECHT, Netherlands,  
3360 AB**

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

**Product:** Loose Gear, Lifting Device, Shackles  
**Model:** G-4161, G-4163, G-4163H, G-4151, G-4153  
**Endorsements:**  
**Tier:** 3 - Type Approved, unit certification not required

This Product Design Assessment (PDA) Certificate remains valid until 25/Jul/2028 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

*Soheni Haque*

Soheni Haque,Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

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**Tier: 3 - Type Approved, unit certification not required**

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**Product:** Loose Gear, Lifting Device, Shackles  
**Model:** G-4161, G-4163, G-4163H, G-4151, G-4153  
**Endorsements:**

**Intended Service:**  
Loose Gear Items. Use on the Lifting Equipment.

**Description:**  
Green Pin Standard Shackle

**Rating:**  
See attached "pdf" file for size, working load, etc.  
Safe Working Load: 0.33t to 85t  
Design Factor: 6:1  
Design Service Temperature: -40°C

**Service Restriction:**

1. Unit certification is not required for this product. The manufacturer's loose gear test certificate is to be provided to the attending surveyor in accordance with Section 2-5/5.5.1 of the ABS Lifting Appliances Guide. The certificate is to show the distinguishing number or mark applied to the article of gear, description, kind of material, carbon content, date of test, proof load applied, and safe working load. Loose gear certificates are to be inserted in the Register of Lifting Appliances.
2. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
3. Prior to installation on a crane certified by ABS, the PDA is to be reviewed for the actual installation.

**Comments:**

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. If full compliance with US Fed Spec RR-C-271H is required, the Surveyor is to verify that the loose gear certificate indicates a proof load of 2.2 x SWL. For compliance with the ABS Lifting Appliances Guide, a proof load of 2 x SWL is required on the loose gear certificate per Section 2-5/1 of the ABS Lifting Appliances Guide.
3. The safe working load is to be marked on the shackles.

**Notes/Drawing/Documentation:**

Drawing No. MUF35-50DO, Green Pin Hitched Bow Shackle BN, Revision: 0, Pages: 01  
Drawing No. MUFxxDO, Anti-Dropping Nut with Rotatable Washer, Revision: A, Pages: 01  
Drawing No. GPZKMB16-32L, Standard Bow Dee Shackle with Screw Safety Pin, Revision: A, Pages: 01  
Drawing No. GPZKMB35-83H, Standard Bow Dee Shackle with Safety Bolt, Revision: 0, Pages: 01  
Drawing No. GPZKMB35-50L, Safety Bolt with Screw Collar Head, Revision: 0, Pages: 01  
Drawing No. MUF35-83H, Shackle Nut, Revision: 0, Pages: 01  
Drawing No. 2218, Dimensions hexagon nuts MMF06-16 and MUF12-38, Revision: D, Pages: 01  
Drawing No. 2219, Drawing, Dimensions hexagon thin nuts MUF 42-83, Revision: G, Pages: 01  
Drawing No. 2449, Dimensions hexagon super nuts MUF42H-83H, Revision: O, Pages: 01  
Drawing Nos. 5000 through 5017, "Green Pin Standard Shackles bow shackles with safety bolt," Rev. A, Parts GPGHMB06, GPGHMB08, GPGHMB10, GPGHMB11, GPGHMB13, GPGHMB16, GPGHMB19, GPGHMB22, GPGHMB25, GPGHMB28, GPGHMB32, GPGHMB35, GPGHMB38, GPGHMB45, GPGHMB50, GPGHMB57, GPGHMB65, GPGHMB75  
Drawing Nos. 5025 through 5038, "Green Pin Standard Shackles dee shackles with safety bolt," Rev. A, Parts GPGDMB13, GPGDMB16, GPGDMB19, GPGDMB22, GPGDMB25, GPGDMB28, GPGDMB32, GPGDMB35, GPGDMB38, GPGDMB45, GPGDMB50, GPGDMB57, GPGDMB65, GPGDMB75  
Drawing Nos. 5050 through 5054, "Green Pin Standard Shackles bow shackles with screw collar pin," Rev. A, Parts

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GPGHBB05, GPGHBB06, GPGHBB08, GPGHBB10, GPGHBB11

Drawing Nos. 5055 through 5067, "Green Pin Standard Shackles bow shackles with screw collar pin," Rev. B, Parts GPGHBB13, GPGHBB16, GPGHBB19, GPGHBB22, GPGHBB25, GPGHBB28, GPGHBB32, GPGHBB35, GPGHBB38, GPGHBB45, GPGHBB50, GPGHBB57, GPGHBB65

Drawing Nos. 5075 through 5079, "Green Pin Standard Shackles dee shackles with screw collar pin," Rev. A, Parts GPGDBB05, GPGDBB06, GPGDBB08, GPGDBB10, GPGDBB11

Drawing Nos. 5080 through 5092, "Green Pin Standard Shackles dee shackles with screw collar pin," Rev. B, Parts GPGDBB13, GPGDBB16, GPGDBB19, GPGDBB22, GPGDBB25, GPGDBB28, GPGDBB32, GPGDBB35, GPGDBB38, GPGDBB45, GPGDBB50, GPGDBB57, GPGDBB65

Drawing Nos. 6000 through 6005, "Green Pin Standard Shackles bow shackles with safety bolt," Rev. 0, Parts GPGHMB13H, GPGHMB16H, GPGHMB19H, GPGHMB22H, GPGHMB25H, GPGHMB28H

Document No. KS-06-05R, Specification material PSt 52-3, Revision: R, Pages: 8

Document No. KS-06-06Q, Specification material SAE 8620, German Standard Number: 1.6523, Revision: Q, Pages: 8

Document No. KS-06-08L, Specification Hexagon nuts Metric and UNC (Inch Series), Revision: L, Pages: 2

Document No. KS-06-14R, Specification Green Pin Shackle pins, Revision: R, Pages: 8

Document No. KS-06-15C, Specification Split pins for Green Pin Shackles with safety bolts, Revision: C, Pages: 2

Document No. KS-06-18I, Specification Green Pin shackle bodies, Revision: I, Pages: 8

G-4161:

Damen Anchor & Chain Factory (AKF) test report no. 15382 dated 11 Nov. 2015, GPGHBB05

Damen Anchor & Chain Factory (AKF) test report no. 18089-1 dated 14 March 2017, GPGHBB06

Damen Anchor & Chain Factory (AKF) test report no. 15381 dated 11 Nov 2015, GPGHBB08

Damen Anchor & Chain Factory (AKF) test report no. 06326.1-5 dated 15 August 2006, GPGHBB08

Damen Anchor & Chain Factory (AKF) test report no. 15379 dated 11 Nov. 2015, GPGHBB10

Damen Anchor & Chain Factory (AKF) test report no. 15377 dated 11 Nov. 2015, GPGHBB11

Damen Anchor & Chain Factory (AKF) test report no. 17165 dated 7 April 2017, GPGHBB13

Damen Anchor & Chain Factory (AKF) test report no. 17282 dated 21 Sept. 2017, GPGHBB16

Damen Anchor & Chain Factory (AKF) test report no. 17167 dated 7 April 2017, GPGHBB19

Damen Anchor & Chain Factory (AKF) test report no. 17284 dated 21 September 2017, GPGHBB22

Damen Anchor & Chain Factory (AKF) test report no. 17285 dated 21 September 2017, GPGHBB25

Damen Anchor & Chain Factory (AKF) test report no. 16107 dated 25 April 2016, GPGHBB28

Damen Anchor & Chain Factory (AKF) test report no. 17170 dated 7 April 2017, GPGHBB32

Damen Anchor & Chain Factory (AKF) test report no. 16109 dated 25 April 2016, GPGHBB35

Damen Anchor & Chain Factory (AKF) test report no. 17355 dated 11 December 2017, GPGHBB38

Damen Anchor & Chain Factory (AKF) test report no. 17151 dated 7 April 2017, GPGHBB45

Damen Anchor & Chain Factory (AKF) test report no. 17209 dated 10 May 2017, GPGHBB50

Damen Anchor & Chain Factory (AKF) test report no. 14145 dated 29 April 2014, GPGHBB57

Damen Anchor & Chain Factory (AKF) test report no. 15149 dated April 2015, GPGHBB65

G-4163:

Damen Anchor & Chain Factory (AKF) test report no. 18090-1 dated 14 March 2017, GPGHMB06

Damen Anchor & Chain Factory (AKF) test report no. 17258 dated 25 August 2017, GPGHMB08

Damen Anchor & Chain Factory (AKF) test report no. 14094 dated 17 April 2014, GPGHMB10

Damen Anchor & Chain Factory (AKF) test report no. 16210 dated 24 August 2016, GPGHMB11

Damen Anchor & Chain Factory (AKF) test report no. 17152 dated 7 April 2017, GPGHMB13

Damen Anchor & Chain Factory (AKF) test report no. 17359 dated 11 December 2017, GPGHMB16

Damen Anchor & Chain Factory (AKF) test report no. 17154 dated 7 April 2017, GPGHMB19

Damen Anchor & Chain Factory (AKF) test report no. 17208 dated 10 May 2017, GPGHMB22

Damen Anchor & Chain Factory (AKF) test report no. 17361 dated 11 December 2017, GPGHMB25

Damen Anchor & Chain Factory (AKF) test report no. 16134 dated 24 May 2016, GPGHMB28

Damen Anchor & Chain Factory (AKF) test report no. 17316 dated 22 November 2017, GPGHMB32

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Damen Anchor & Chain Factory (AKF) test report no. 17240 dated 10 July 2017, GPGHMB35  
Damen Anchor & Chain Factory (AKF) test report no. 17033 dated 13 January 2017, GPGHMB38  
Damen Anchor & Chain Factory (AKF) test report no. 17149 dated 7 April 2017, GPGHMB45  
Damen Anchor & Chain Factory (AKF) test report no. 12152.1-2 dated 12 March 2012, GPGHMB50  
Damen Anchor & Chain Factory (AKF) test report no. 17298 dated 25 September 2017, GPGHMB57  
Damen Anchor & Chain Factory (AKF) test report no. 17037 dated 13 January 2017, GPGHMB65  
Damen Anchor & Chain Factory (AKF) test report no. 17155 dated 7 April 2017, GPGHMB75

**G-4151:**

Damen Anchor & Chain Factory (AKF) test report no. 18072-1 dated 13 March 2017, GPGDBB05  
Damen Anchor & Chain Factory (AKF) test report no. 18073-2 dated 13 March 2017, GPGDBB06  
Damen Anchor & Chain Factory (AKF) test report no. 18073-1 dated 13 March 2017, GPGDBB08  
Damen Anchor & Chain Factory (AKF) test report no. 18075-1 dated 13 March 2017, GPGDBB10  
Damen Anchor & Chain Factory (AKF) test report no. 18076-1 dated 13 March 2017, GPGDBB11  
Damen Anchor & Chain Factory (AKF) test report no. 17159 dated 7 April 2017, GPGDBB13  
Damen Anchor & Chain Factory (AKF) test report no. 16100 dated 25 April 2016, GPGDBB16  
Damen Anchor & Chain Factory (AKF) test report no. 17161 dated 7 April 2017, GPGDBB19  
Damen Anchor & Chain Factory (AKF) test report no. 17162 dated 7 April 2017, GPGDBB22  
Damen Anchor & Chain Factory (AKF) test report no. 17163 dated 7 April 2017, GPGDBB25  
Damen Anchor & Chain Factory (AKF) test report no. 17164 dated 7 April 2017, GPGDBB28  
Damen Anchor & Chain Factory (AKF) test report no. 13212-1/2 dated 13 June, GPGDBB32  
Damen Anchor & Chain Factory (AKF) test report no. 13270 dated 8 August 2013, GPGDBB35  
Damen Anchor & Chain Factory (AKF) test report no. 18077-1 dated 13 March 2017, GPGDBB38  
Damen Anchor & Chain Factory (AKF) test report no. 18078-1 dated 13 March 2017, GPGDBB45  
Damen Anchor & Chain Factory (AKF) test report no. 08252.1-2 dated 25 July 2008, GPGDBB50  
Damen Anchor & Chain Factory (AKF) test report no. 12113 dated 27 February 2008 GPGDBB57  
Damen Anchor & Chain Factory (AKF) test report no. 18052-1 dated 27 March 2018, GPGDBB65

**G-4153:**

Damen Anchor & Chain Factory (AKF) test report no. 18081-1 dated 13 March 2017, GPGDMB13  
Damen Anchor & Chain Factory (AKF) test report no. 18083-1 dated 14 March 2017, GPGDMB16  
Damen Anchor & Chain Factory (AKF) test report no. 18084-1 dated 14 March 2017, GPGDMB19  
Damen Anchor & Chain Factory (AKF) test report no. 18085-1 dated 14 March 2017, GPGDMB22  
Damen Anchor & Chain Factory (AKF) test report no. 18086-1 dated 7 May 2018, GPGDMB25  
Damen Anchor & Chain Factory (AKF) test report no. 12173.1-5 dated 26 March 2012, GPGDMB28  
Damen Anchor & Chain Factory (AKF) test report no. 12258.1-5 dated 24 May 2012, GPGDMB32  
Damen Anchor & Chain Factory (AKF) test report no. 12518.1-5 dated 10 December 2012, GPGDMB35  
Damen Anchor & Chain Factory (AKF) test report no. 18087-1 dated 14 March 2017, GPGDMB38  
Damen Anchor & Chain Factory (AKF) test report no. 12259.1-5 dated 24 May 2012, GPGDMB45  
Damen Anchor & Chain Factory (AKF) test report no. 12519.1-5 dated 10 December 2012, GPGDMB50  
Damen Anchor & Chain Factory (AKF) test report no. 18088-1 dated 14 March 2017, GPGDMB57  
Damen Anchor & Chain Factory (AKF) test report no. 12174.1-5 dated 26 March 2012, GPGDMB65  
Damen Anchor & Chain Factory (AKF) test report no. 16036 dated 26 February 2016, GPGDMB75

**Terms of Validity:**

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Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

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**STANDARDS**

**ABS Rules:**

2023 Rules for Conditions of Classification, Part 1 - 2023 Marine Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4;  
2021 Guide for Certification of Lifting Appliances: 2-3, 2-5/1

**National:**

ASME B30.26-2020, Rigging Hardware: 26-1  
US Federal Specification RR-C-271H, 2021

**International:**

BS EN-13889:2003+A1:2008, Forged steel shackles for general lifting purposes - Dee shackles and bow shackles - Grade 6 - Safety  
ISO 2415:2022

**Government:**

NA

**EUMED:**

NA

**OTHERS:**

NA